CLAIMS

1. A method for producing a multi-layer device, the method comprising the steps of:

providing a substrate comprising a support region for supporting an electrical component in use;

forming an electrically conductive bond layer on a surface of the substrate, the bond surrounding the support region;

providing an encasing layer in contact with the bond layer, to encase the component between the substrate and the encasing layer; and

bonding the encasing layer to the bond layer to form a sealed cavity enclosing the component.

2. A method according to claim 1, wherein the encasing layer is anodically bonded to the bond layer to form the sealed cavity.

3. A method according to claims 1 or 2, wherein the substrate comprises an electrical conductor, positioned in isolation from the surface provided to receive the bond layer, to connect the component with an external contact pad.

4. A method according to claim 3, wherein the conductor is formed from at least one conducting layer coupled with conducting plugs.

5. A method according to claim 4, wherein the conducting layer is surrounded by dielectric layers.

6. A method according to any preceding claim, wherein the component is CMOS or BiCMOS circuitry.

7. A method according to any of claims 1 to 5, wherein the component is a micro-sensor and/or a micro-actuator.

8. A method according to any preceding claim, further comprising the step of protecting the device from the electric field generated during anodic bonding by placing a conductive shielding layer on the glass wafer and connecting it to the substrate.

9. A method according to any preceding claim, wherein a second encasing layer is bonded to a second surface of the substrate to form a second sealed cavity.

10. A method according to any preceding claim, wherein multiple devices are produced simultaneously on the same substrate, wherein, a bond layer is formed on the surface of the substrate and comprises individual bond members, each of which surrounds a respective component, the bond members being interconnected by plural conducting links to provide an electrical contact path through the bond layer.

11. A multi-layer device comprising:

a substrate;

at least one electrical component located on the substrate;

an electrically conductive bond layer, formed on the substrate and surrounding the electrical components; and

an encasing layer, wherein the encasing layer is bonded to the bond layer to form a sealed cavity encasing the components therein.

12. A device according to claim 11, wherein the encasing layer is anodically bonded to the bond layer to form the sealed cavity.

13. A device according to claims 11 or 12, wherein the substrate comprises an electrical conductor, positioned in isolation from the surface provided to receive the bond layer, to connect the component with an external contact pad.

14. A device according to claim 13, wherein the conductor is formed from at least one conducting layer coupled with conducting plugs.

15. A device according to claim 14, wherein the conducting layer is surrounded by dielectric layers.

16. A device according to any of claims 11 to 15, wherein the component is CMOS or BiCMOS circuitry.

17. A device according to any of claims 11 to 15, wherein the component is a pressure sensor or an inertial sensor.

18. A device according to any of claims 11 to 17, further comprising a conductive shielding layer which is placed on the glass wafer and connected to the substrate, in order to protect the device from he electric field generated during anodic bonding.

19. A device according to any of claims 11 to 18, wherein a second encasing layer is bonded to a second surface of the substrate to form a second sealed cavity.